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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/530,905	04/08/2005	Francis Darro	DECLE61.002APC	9936

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EXAMINER	
HOFFMAN, SUSAN COE	
ART UNIT	**PAPER NUMBER**
1655	

SHORTENED STATUTORY PERIOD OF RESPONSE	NOTIFICATION DATE	DELIVERY MODE
3 MONTHS	04/20/2007	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Notice of this Office communication was sent electronically on the above-indicated "Notification Date" and has a shortened statutory period for reply of 3 MONTHS from 04/20/2007.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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Office Action Summary	Application No.	Applicant(s)	
	10/530,905	DARRO ET AL.	
	Examiner	Art Unit	
	Susan Coe Hoffman	1655	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *06 February 2007*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-14 and 16* is/are pending in the application.

4a) Of the above claim(s) *8-10* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-7,11-14 and 16* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *08 April 2005* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *4/05*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

1. Claims 1-14 and 16 are currently pending.

Election/Restrictions

2. Applicant's election with traverse of calotropin and 2' oxo-vorusharin for species A, lung cancer for species B, and vincristine for species C in the reply filed on February 6, 2007 is acknowledged. The traversal is on the ground(s) that WO 98/52562 shows that the invention has unity of invention rather than lack of invention because the reference does not teach all of the compounds claimed in claim 3. Applicant argues that since not all of the compounds are taught in the reference this shows that the compounds have a special technical feature. This is not found persuasive because the fact that a prior art reference teaches some of the claimed compounds but not all clearly demonstrates a lack of special technical feature between the claimed compounds. If some of the claimed compounds are known and anticipated, then all of the claimed compound clearly do not represent a single technical feature that defines the invention over the prior art. Thus, the compounds claimed in claim 3 are considered to lack a special technical feature.

The requirement is still deemed proper and is therefore made FINAL.

3. Claims 6-10 are withdrawn from further consideration pursuant to 37 CFR 1.142(b), as being drawn to a nonelected species, there being no allowable generic or linking claim. Applicant timely traversed the restriction (election) requirement in the reply filed on February 6, 2007.

4. Claims 1-5, 11-14 and 16 are examined on the merits in regards to the elected species.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

5. Claims 1-7, 11, 12, and 16 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Claim 1 is indefinite because it is unclear what are considered "relevant detrimental side effects."

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

6. Claim 16 is rejected under 35 U.S.C. 102(b) as being anticipated by Mrak (CH 679012 A).

Mrak teaches a composition comprising an extract of Calotropis procera and additional therapeutic compositions (see English abstracts).

Mrak does not specifically teach that the compositions are in containers. However, the inclusion of the container is not considered to alter the basic composition itself. Thus, the composition is properly anticipated by the reference.

Claim Rejections - 35 USC § 102/103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

7. Claim 14 is rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Hussein et al. (Journal of Chemical Ecology (1994), vol. 20, no. 1, pp. 135-140).

Claim 14 is a product-by-process claims. Regarding product-by-process claims, note that MPEP § 2113 states that:

> "[w]hen the prior art discloses a product which reasonably appears to be either identical with or only slightly different than a product claimed in a product-by-process claim, a rejection based alternatively on either section 35 U.S.C. 102 or 35 U.S.C. 103 of the statute is appropriate...A lesser burden of proof is required to make out a case of prima facie obviousness for product-by-process claims because of their peculiar nature than when a product is claimed in the conventional fashion. In re Brown, 59 CCPA 1063, 173 USPQ 685 (1972) ; In re Fessmann, 180 USPQ 324 (CCPA1974)... Once the examiner provides a rationale tending to show that the claimed product appears to be the same or similar to that of the prior art, although produced by a different process, the burden shifts to applicant to come forward with evidence establishing an unobvious difference between the claimed product and the prior art product. In re Marosi, 710 F.2d 798, 802, 218 USPQ 289, 292 (Fed. Cir. 1983). "

The reference discloses an extract which appears to be identical to the presently claimed extract. The reference teaches extracting C. procera by mixing the plant in an aliphatic alcohol, stirring the mixture, and filtering the mixture to obtain and filtrate (filtrate A) and a precipitate. The precipitate is then mixed with alcohol and filtered to obtain filtrate B. Filtrate A and B and

then combined together and dried (see page 136 "Isolation of Uscharin"). Consequently, the claimed extract appears to be anticipated by the reference.

However, even if the reference extract and the claimed extract are not one and the same and there is, in fact, no anticipation, the reference extract would, nevertheless, have rendered the claimed extract obvious to one of ordinary skill in the art at the time the claimed invention was made in view of the clearly close relationship between the extracts as evidenced by their similar extraction procedures.

Thus the claimed invention as a whole was clearly *prima facie* obvious especially in the absence of sufficient, clear, and convincing evidence to the contrary.

8. Claim 14 is rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Alkofahi et al. (Int. J. Crude Drug Res. (1990), vol. 28, no. 2, pp. 139-144).

The reference discloses extract which appears to be identical to the presently claimed extract, based on the fact that the both the reference extract and the claimed extract are from C. procera, are extracted using an aliphatic alcohol, and have anti-cancer properties (see page 141). Consequently, the claimed extract appears to be anticipated by the reference.

However, even if the reference extract and the claimed extract are not one and the same and there is, in fact, no anticipation, the reference extract would, nevertheless, have rendered the claimed extract obvious to one of ordinary skill in the art at the time the claimed invention was made in view of the clearly close relationship between the extracts as evidenced by their shared pharmaceutical characteristics.

Thus the claimed invention as a whole was clearly *prima facie* obvious especially

in the absence of sufficient, clear, and convincing evidence to the contrary.

9. Claim 14 is rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Stimson - WO 98/52562.

The reference discloses an extract which appears to be identical to the presently claimed extract, based on the fact that the both the reference extract and the claimed extract are from C. procera and both have anti-cancer properties. Consequently, the claimed extract appears to be anticipated by the reference.

However, even if the reference extract and the claimed extract are not one and the same and there is, in fact, no anticipation, the reference extract would, nevertheless, have rendered the claimed extract obvious to one of ordinary skill in the art at the time the claimed invention was made in view of the clearly close relationship between the extracts as evidenced by their shared pharmaceutical characteristics.

Thus the claimed invention as a whole was clearly *prima facie* obvious especially in the absence of sufficient, clear, and convincing evidence to the contrary.

Claim Rejections - 35 USC § 103

10. Claims 1-7, 11, 12 and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Alkofahi et al. (Int. J. Crude Drug Res. (1990), vol. 28, no. 2, pp. 139-144) in view of Sunkara (US Pat. No. 4,904,697).

Alkofahi teaches that ethanolic extracts from C. procera have anticancer activities against lung cancer cells. Alkofahi teaches that these extracts can be useful in treating cancer. Alkofahi does not specifically teach that the C. procera extract contains calotropin and 2' oxo-vorusharin.

However, according the applicant's specification, these compounds are naturally found in all C. procera plants and in the alcoholic extracts of the plant. Thus, these compounds would be present in the extract taught by Alkofahi. Alkofahi also does not specifically teach all of the process limitations set forth in claim 2. However, claim 2 claims a product the by process. The product taught by Alkofahi reasonably appears to be the same product for the reasons discussed above in paragraph 8. Thus, Alkofahi is considered to properly teach claim 2.

Alkofahi shows that it was known in the art at the time of the invention to use alcoholic extracts of C. procera to treat cancer. However, Alkofahi does not teach using vincristine or radiation in combination with the C. procera cancer treatment.

Sunkara teaches using vincristine and radiation in combination with other anti-cancer treatments in the treatment of a variety of cancers including lung cancer (see column 3, lines 20, 32-33, and 40). Sunkara teaches that combination therapy administers the treatments together or sequentially (see column 4, lines 7-13).

These references show that it was well known in the art at the time of the invention to use the claimed therapies to treat cancer. It is well known that it is prima facie obvious to combine two or more ingredients each of which is taught by the prior art to be useful for the same purpose in order to form a third composition which is useful for the same purpose. The idea for combining them flows logically from their having been used individually in the prior art. In re Pinten, 459 F.2d 1053, 173 USPQ 801 (CCPA 1972); In re Susi, 58 CCPA 1074, 1079-80; 440 F.2d 442, 445; 169 USPQ 423, 426 (1971); In re Crockett, 47 CCPA 1018, 1020-21; 279 F.2d 274, 276-277; 126 USPQ 186, 188 (1960).

Based on the disclosure by these references that these therapies are used in to treat cancer, an artisan of ordinary skill would have a reasonable expectation that a combination of the therapies would also be useful in treating cancer. Therefore, the artisan would have been motivated to combine the claimed ingredients into a single method of treatment. No patentable invention resides in combining old ingredients of known properties where the results obtained thereby are no more than the additive effect of the ingredients. See In re Sussman, 1943 C.D. 518; In re Huellmantel 139 USPQ 496; In re Crockett 126 USPQ 186.

The references also do not specifically teach adding the ingredients in the amounts claimed by applicant. The amount of a specific ingredient in a composition is clearly a result effective parameter that a person of ordinary skill in the art would routinely optimize. "[W]here the general conditions of a claim are disclosed in the prior art, it is not inventive to discover the optimum or workable ranges by routine experimentation." In re Aller, 220 F.2d 454, 456, 105 USPQ 233, 235 (CCPA 1955). Thus, optimization of general conditions is a routine practice that would be obvious for a person of ordinary skill in the art to employ. It would have been customary for an artisan of ordinary skill to determine the optimal amount of each ingredient to add in order to best achieve the desired results. Thus, absent some demonstration of unexpected results from the claimed parameters, this optimization of ingredient amount would have been obvious at the time of applicant's invention.

11. Claims 1-7, 11, 12 and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Stimson (WO 98/52562) in view of Sunkara (US Pat. No. 4,904,697).

Stimson teaches treating cancers using usharin and usharidin isolated from C. gigantea. The reference also teaches using methanolic extracts (see Examples). The reference also teaches

that these compounds can be isolated from C. procera (see page 2). Thus, an artisan of ordinary skill would reasonably expect that C. procera could be used in place of C. gigantea in making the anti-cancer compositions. The reference teaches using the composition to treat lung cancers (see top of page 6).

Stimson does not specifically teach that the C. procera extract contains calotropin and 2' oxo-vorusharin. However, according the applicant's specification, these compounds are naturally found in all C. procera plants and in the alcoholic extracts of the plant. Thus, these compounds would be present in the extract taught by Stimson. Stimson also does not specifically teach all of the process limitations set forth in claim 2. However, claim 2 claims a product the by process. The product taught by Stimson reasonably appears to be the same product for the reasons discussed above in paragraph 9. Thus, Stimson is considered to properly teach claim 2.

Stimson shows that it was known in the art at the time of the invention to use alcoholic extracts of C. procera to treat cancer. However, Stimson does not teach using vincristine or radiation in combination with the C. procera cancer treatment.

Sunkara teaches using vincristine and radiation in combination with other anti-cancer treatments in the treatment of a variety of cancers including lung cancer (see column 3, lines 20, 32-33, and 40). Sunkara teaches that combination therapy administers the treatments together or sequentially (see column 4, lines 7-13).

These references show that it was well known in the art at the time of the invention to use the claimed therapies to treat cancer. It is well known that it is prima facie obvious to combine two or more ingredients each of which is taught by the prior art to be useful for the same purpose

in order to form a third composition which is useful for the same purpose. The idea for combining them flows logically from their having been used individually in the prior art. In re Pinten, 459 F.2d 1053, 173 USPQ 801 (CCPA 1972); In re Susi, 58 CCPA 1074, 1079-80; 440 F.2d 442, 445; 169 USPQ 423, 426 (1971); In re Crockett, 47 CCPA 1018, 1020-21; 279 F.2d 274, 276-277; 126 USPQ 186, 188 (1960).

Based on the disclosure by these references that these therapies are used in to treat cancer, an artisan of ordinary skill would have a reasonable expectation that a combination of the therapies would also be useful in treating cancer. Therefore, the artisan would have been motivated to combine the claimed ingredients into a single method of treatment. No patentable invention resides in combining old ingredients of known properties where the results obtained thereby are no more than the additive effect of the ingredients. See In re Sussman, 1943 C.D. 518; In re Huellmantel 139 USPQ 496; In re Crockett 126 USPQ 186.

The references also do not specifically teach adding the ingredients in the amounts claimed by applicant. The amount of a specific ingredient in a composition is clearly a result effective parameter that a person of ordinary skill in the art would routinely optimize. "[W]here the general conditions of a claim are disclosed in the prior art, it is not inventive to discover the optimum or workable ranges by routine experimentation." In re Aller, 220 F.2d 454, 456, 105 USPQ 233, 235 (CCPA 1955). Thus, optimization of general conditions is a routine practice that would be obvious for a person of ordinary skill in the art to employ. It would have been customary for an artisan of ordinary skill to determine the optimal amount of each ingredient to add in order to best achieve the desired results. Thus, absent some demonstration of unexpected

results from the claimed parameters, this optimization of ingredient amount would have been obvious at the time of applicant's invention.

12. Claim 13 is rejected under 35 U.S.C. 103(a) as being unpatentable over Hussein et al. (Journal of Chemical Ecology (1994), vol. 20, no. 1).

The reference teaches extracting C. procera by mixing the stem latex in an aliphatic alcohol, stirring the mixture, and filtering the mixture to obtain and filtrate (filtrate A) and a precipitate. The precipitate is then mixed with alcohol and filtered to obtain filtrate B. Filtrate A and B and then combined together and dried (see page 136 "Isolation of Uscharin").

The reference does not specifically teach using fritted glass to perform the filtration or a vacuum to dry the combine filtrates. However, it was well known in the art at the time of the invention to use fritted glass for filtrations and vacuum drying to dry substances. An artisan of ordinary skill would have been motivated to use these well known techniques to perform the filtering and drying steps set forth in the reference.

13. No claims are allowed.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Susan Coe Hoffman whose telephone number is (571) 272-0963. The examiner can normally be reached on Monday-Thursday, 9:30-5:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Terry McKelvey can be reached on (571) 272-0775. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

4-13-07

Susan Coe Hoffman
Primary Examiner
Art Unit 1655